

## CLIMATOLOGICAL DATA FOR DECEMBER, 1913.

## DISTRICT NO. 5, UPPER MISSISSIPPI VALLEY.

GEO. M. CHAPPEL, District Editor.

## GENERAL SUMMARY.

The closing month of 1913 in the upper Mississippi Valley was marked by extreme mildness and dryness. For the district as a whole it was the mildest December since 1889, and with that exception, since 1877. In other words, the month was the third mildest December of record. The precipitation conditions of the month were also decidedly abnormal. Over much of the northern half of the district no other December of record has had so little moisture, several stations reporting no precipitation whatever, while many had only a trace. From southern Iowa northward the month's snowfall was almost negligible. Another feature of the month, which contributed in no small degree to its pleasantness, was the absence of much wind; the movement was the lightest of record generally for December.

The agreeable conditions of the month permitted building operations and other outdoor work of most kinds to progress with little interruption, but the absence of snowfall in northern Minnesota retarded logging. There was much complaint as to trade conditions in certain commodities, such as coal, heavy clothing, etc. The mild weather resulted in the formation of only a moderate thickness of ice, and at the close of the month there was some apprehension among dealers in that article.

The warm weather had its effect on vegetation. Hardy shrubs made some growth the first half of the month, and lawns and pastures were green as far north as Wisconsin during that time. In Illinois dandelions bloomed and went to seed, and pastures were reported better than at any time during the summer. Country roads were in excellent condition most of the month, but in some localities were quite dusty at the close.

The following table presents in condensed form the leading features of climatological interest for the various parts of the district:

Parts of States within district 5.	Temperature.				Precipitation.					
	Mean.	Depart.	Highest.	Lowest.	Average.	Depart.	Greatest total.	Least total.	Average snowfall.	Average number of days with precipitation.
North Dakota.....	22.0	+10.8	61	-21	0.04	-0.47	0.28	0.00	0.2	1
Minnesota.....	26.1	+10.8	67	-20	0.04	-0.70	0.42	0.00	0.3	1
South Dakota.....	25.4	+ 6.9	63	-10	0.11	-0.63	0.11	0.11	T.	1
Wisconsin.....	28.9	+ 9.6	58	- 8	0.20	-1.21	0.79	T.	0.4	2
Iowa.....	32.5	+ 9.2	61	- 5	0.75	-0.50	2.89	T.	1.1	4
Missouri.....	38.2	+ 6.6	74	9	1.60	-0.23	2.45	1.00	6.5	5
Indiana.....	35.1	+ 8.4	62	11	0.90	-1.91	1.08	0.66	5.8	5
Illinois.....	36.2	+ 6.5	74	9	1.00	-0.98	2.45	T.	3.4	6

## TEMPERATURE.

The mean temperature for the district was  $30.2^{\circ}$ , or  $9^{\circ}$  higher than the normal. The month was mild throughout the district, but the average daily excess of tempera-

ture was greatest in the extreme north where it reached almost  $14^{\circ}$ . Over much of North Dakota and Minnesota the month, with the single exception of December, 1877, was the mildest December in the climatological history of those States. The average daily excess of temperature exceeded  $6^{\circ}$  in all parts of the district save the southern tip of Illinois. That section of the State was the warmest part of the district, with average temperatures slightly higher than  $40^{\circ}$ ; Cobden reported the highest mean temperature,  $42^{\circ}$ . The lowest mean temperatures occurred in the extreme northern parts of North Dakota and Minnesota, being slightly lower than  $20^{\circ}$ . Hannah in the former State, and Halstad in the latter were the coldest points, with average temperatures of  $18^{\circ}$ .

The first six days of the month was a period of abnormal warmth. The night temperatures especially were high at that time, having occurred in connection with the cloudy, humid weather that marked those days. Many stations in the southern part of the district experienced their highest temperature of the month some time during this six-day period, but from Iowa northward the warmest weather occurred at the beginning of the second decade. The highest temperature reported was  $74^{\circ}$ , at Cobden, Ill., on the 1st, and at Sublett, Mo., on the 2d. These were the only instances in the district of a temperature of  $70^{\circ}$  or higher. At most stations the coldest weather of the month occurred some time in the last decade. Christmas was the coldest day in North Dakota and Minnesota. No zero temperatures were experienced over much of the southern two-thirds of the district. The lowest temperature reported was  $-21^{\circ}$ , at Hannah, N. Dak., on the 25th.

## PRECIPITATION.

The average precipitation for the district was 0.51 inch or 0.78 inch less than the normal. The month was relatively dry over practically the whole district, only 18 stations reporting an excess of precipitation; fifteen of those stations are in Iowa. Over the northern half of the district the month was unusually dry, no station reporting as much as an inch of precipitation, and in most cases the amounts were less than half an inch. Moreover, over extensive areas only traces occurred, and several stations reported no precipitation whatever. The precipitation was somewhat greater in the southern half of the district, but even there a general deficiency obtained. The greatest amount was 2.89 inches, at Burlington, Iowa.

A large share of the total precipitation occurred during the first week of the month, which was a period of dense cloudiness and damp, stagnant atmospheric conditions. From the 8th to 20th very little precipitation was reported from any part of the district, but beginning on the 20th and lasting about a week was a period of quite frequent snowfall. Most of the month's fall occurred at this time, and the amounts were moderately heavy from southern Iowa southward and eastward. The average snowfall for the district was only 1.4 inches; the greatest amount was 10.6 inches at Chester, Ill.

## RIVERS.

The rivers and streams of the district were at low stages throughout the month. Ice was present in the Minnesota River after the middle of the month, and by the 22d the Mississippi had closed at Prairie du Chien, Wis., with floating ice, thence southward the remainder of the month, except that the river froze over at Le Claire, Iowa, on the 28th. At the close of the month the ice in the Red River of the North at Moorhead, Minn., was 6 inches thick, and a like thickness obtained in the Des Moines River at Des Moines, Iowa.

## MISCELLANEOUS.

The prevailing winds were northwesterly over the Dakotas and Minnesota and southwesterly over most of the remainder of the district. The total movement was the lightest of record for December. The highest velocity reported was 48 miles an hour from the north, at St. Paul, Minn., on the 7th, and from the northwest at Minneapolis, Minn., on the same date. In the north the amount of sunshine was much in excess of the normal, but in the south a slight deficiency was reported from some sections. The average number of clear days was 14; partly cloudy, 6; cloudy, 11.

TABLE 1.—Climatological data for December, 1913. District No. 5, Upper Mississippi Valley.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.						Sky.	Prevailing wind direction.	Observers.			
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unadjusted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.			
<i>North Dakota.</i>																					
Amenia.	Cass.	954	17	23.5	+10.9	55	11	-13	25	35	T.	-0.44	T.	T.	0	22	2	7	w.	C. E. Wood.	
Bottineau.	Bottineau.	1,038	21	18.2	+10.7	49	10	-14	25	44	T.	-0.49	0.05	T.	2	14	3	9	nw.	H. F. Steinmeir.	
Bowbells.	Burke.	1,958	1																	G. H. Phelps.	
Cando.	Towner.	1,488	12	18.4	+10.5	47	13	-18	25	53	T.	-0.38	T.	T.	0					E. T. Judd.	
Crosby.	Divide.	6	20.6			47	10	-7	23	30	T.		T.	T.	0	26	4	1	sw.	H. C. Kesschau.	
Devils Lake.	Ramsey.	1,482	8	21.1	+13.1	50	11	-13	25	29	0.06	-0.33	0.06	0.2	1	16	3	7	w.	U. S. Weather Bureau.	
Donnybrook.	Ward.	1,760	14	23.0	+8.7	54	10	-14	25	37	T.	-0.54	T.	T.	0	23	5	3	nw.	C. J. De Vore.	
Dunseath.	Rolette.	17	19.2	+10.0	44	13	-16	25	33	0.00	-0.39	0.00	0.0	0					C. E. Goodsell.		
Eckman (near).	McHenry.	7																	Geo. Yannay.		
Fessenden.	Wells.	1,610	1	22.8		59	10	-15	25	41	0.11		0.11	T.	1	24	5	2	nw.	G. T. Seymour.	
Forman.	Sargent.	1,249	21	28.9	+13.9	52	13	-3	20	39	0.28	-0.21	0.28	0.0	1					A. Maltby.	
Grafton.	Walsh.	827	21	21.2	+13.0	55	11	-16	25	39	0.07	-0.43	0.06	0.2	2	20	2	9	sw.	A. R. T. Wyllie.	
Granville.	McHenry.	1,504	6	23.2		55	11	-14	25	33	0.00		0.00	0.0	0					W. A. Christianson.	
Hannah.	Cavalier.	1,568	8	18.0		50	11	-21	25	34	T.		T.	T.	0	18	7	6	s.	J. Moffatt.	
Hansboro.	Towner.	5																	C. E. Blackorby.		
Hillsboro.	Trail.	901	7	28.1		53	11	-14	25	35	0.05		0.05	T.	1	20	5	6	nw.	F. E. Mayall.	
Lakota.	Nelson.	1,679	12	18.9	+9.3	47	11	-16	25	31	0.05	-0.88	0.04	1.2	2	19	8	4	sw.	C. R. Pettes.	
Langdon.	Cavalier.	1,615	17																J. Woolmer.		
Larimore.	Grand Forks.	1,134	18	24.0	+12.5	60	11	-16	25	40	0.00	-0.39	0.00	0.0	0	24	3	4	nw.	J. M. Freeman.	
Lisbon.	Ransom.	1,081	9	23.3	+8.1	53	2	-15	25	49	T.	-0.63	T.	T.	0	6	13	12	nw.	W. S. Adams.	
McKinley.	Renville.	1,040	19	22.0	+10.7	56	5	-14	24	42	T.	-0.43	T.	T.	0	10	19	2	nw.	N. P. Swanson.	
McLeod.	Ransom.	1,075	1	24.1		51	13	-14	25	36	0.00		0.00	0.0	0	12	13	6	sw.	Martin Reinholdt.	
Manfred.	Wells.	1,605	10	23.4	+11.0	55	10	-14	25	39	0.08	-0.78	0.06	0.2	2	19	3	4	sw.	P. B. Anderson.	
Mayville.	Trail.	975	17	28.0	+14.1	55	11	6	7	37	0.01	-0.46	0.01	0.0	1	25	0	6		W. C. Gould.	
Minor.	Sargent.	1,097	1																H. J. Edman.		
Minto.	Ward.	1,557	17	24.4	+10.7	61	11	-14	25	41	T.	-0.37	T.	T.	0	24	1	6	w.	Louise Bates.	
Oriska.	Walsh.	820	20	21.8	+10.9	50	12	-15	25	37	T.	-0.46	T.	T.	0	18	5	3	s.	S. S. Marsh.	
Park River.	Barnes.	1,270	8	23.5		48	10	-16	25	36	T.		T.	T.	0	14	11	6	nw.	J. J. Taylor.	
Pembina.	Walsh.	998	9	21.8		52	11	-16	25	36	0.08		0.08	0.8	1	9	13	9	nw.	G. M. Hargrave.	
Power.	Pembina.	789	39	19.8	+13.2	58	14	-20	26	50	0.02	-0.33	0.02	0.0	1	16	12	3	w.	C. W. Shumaker.	
Towner.	Richland.	1,020	21	23.0	+10.5	51	16	-16	25	33	0.05	-0.48	0.05	T.	1	21	4	6	nw.	J. A. Power.	
University.	McHenry.	1,432	11	19.6	+7.2	52	10	-13	25	36	0.00	-0.29	0.00	0.0	0	26	4	1	w.	B. Bagley.	
Wahpeton.	Grand Forks.	830	21	20.8	+9.5	52	11	-15	25	37	0.06	-0.44	0.05	0.5	2	17	8	6	nw.	U. S. Weather Bureau.	
Wahpeton.	Richland.	962	19																Fred E. Smith.		
Walhalla.	Pembina.	966	6																Ivanhoe Lee.		
Westhope.	Bottineau.	7																	F. A. Schwader.		
Willow City.	do.	1,471	21	18.6	+8.9	51	10	-19	8	55	0.10	-0.32	0.10	1.0	1	15	12	4	nw.	M. A. Ostby.	
<i>Minnesota.</i>																					
Albert Lea.	Freeborn.	1,220	22	30.2	+11.3	53	11	6	21	29	0.07	-1.03	0.05	T.	2	13	10	8	sw.	Edward Carey.	
Alexandria.	Douglas.	1,391	19	25.8	+13.1	54	11	-5	25	33	0.07	-0.50	0.03	0.4	4	21	2	8	nw.	P. O. Unumb.	
Angus.	Polk.	870	11	20.2	+10.7	50	13	-17	25	39	0.02	-0.61	0.02	0.2	1	17	8	6	s.	John Nadovnik.	
Bagley.	Clearwater.	7	21.1			52	11	-17	25	34	T.		T.	0.5	0	12	13	6	sw.	Jens Nelson.	
Baudette.	Beltrami.	1,084	3	21.8		52	11	-10	25	34	T.		T.	0.5	0	12	13	6	nw.	J. A. Glehang.	
Beardsey.	Big Stone.	1,090	17	26.0	+9.2	62	11	-11	25	38	0.10	-0.36	0.10	T.	1	20	5	4	nw.	G. L. Fitzgerald.	
Bemidji.	Beltrami.	1,400	9								0.03		0.03	0	1	15	12	4		C. W. Wardell.	
Bird Island.	Renville.	1,039	23	27.6	+10.3	63	11	-3	25	41	T.	-0.59	T.	T.	0	7	11	13	sw.	Dr. F. L. Puffer.	
Brainerd.	Crow Wing.	1,215	7	26.6		55	11	-5	25	33	0.00		0.00	0	0	16	10	5	nw.	Theodore Miller.	
Caledonia.	Houston.	1,179	20	30.2	+10.4	50	3	12	21	29	0.12	-1.28	0.06	0.5	3	13	2	16	nw.	W. D. Belden.	
Campbell.	Wilkin.	975	7	21.3		52	11	-12	25	34	T.		T.	0	0	19	1	11	nw.	J. T. Neaseen.	
Cass Lake.	Cass.	1,300	6								0.02		0.02	1.0	1	1			C. W. Burns.		
Chatfield.	Fillmore.										0.13		0.07	0.4	3	14	6	11	n.	G. A. Haven.	
Collegeville.	Stearns.	1,242	20	28.8	+10.1	55	11	0	25	26	0.07	-0.43	0.07	T.	1	17	3	11	nw.	F. Tembreull.	
Crookston.	Polk.	863	24	21.2	+9.3	46	16	-13	25	31	0.10	-0.45	0.10	1.0	1	21	2	8	sw.	A. G. Andersen.	
Detroit.	Becker.	1,364	17	21.5	+11.1	51	11	-14	25	44	0.04	-0.82	T.	T.	0	19	6	6	nw.	G. W. Peoples.	
Fairmont (near).	Martin.	1,240	26	28.6	+8.2	52	11	-2b	25	30	0.04	-0.08	0.04	T.	1	25	8	8	sw.	W. F. Wharland.	
Faribault.	Rice.	1,003	15	31.6	+12.7	56	11	10	22	29	0.06	-0.57	0.04	T.	2	25	8	8	sw.	C. J. Hyda.	
Farmington.	Dakota.	902	25	28.4	+9.3	51	11	5	21	28	T.	-1.23	T.	T.	0	15	3	13	sw.	E. D. Akim.	
Fergus Falls.	Otter Tail.	1,210	21	24.6	+8.2	46	11	-8	25	26	0.04	-0.67	0.01	0.8	4	20	3	8	se.	C. E. Klessinger.	
Fort Ripley.	Crow Wing.	1,136	5	24.2		55	12	-7	25	42	T.	-0.65	T.	T.	0	23	0	8	n.	J. J. Tucker.	
Fosston.	Polk.	1,289	3	20.3		45	11	-15	25	33	0.10		0.05	0.5	3	18	10	3	nw.	O. N. Hem.	
Glencoe.	McLeod.	1,000	16	29.6	+11.3	59	12	-5	25	37	0.00	-0.71	0.00	0	0	18	13	0	sw.	L. V. Koos.	
Grand Meadow.	Mower.	1,338	25	30.0	+11.0	52	12	6	21	29	0.22	-1.14	0.11	0.2	4	17	10	1	4	nw.	C. F. Greening.
Gull Lake Dam.	Cass.	1,215	2	26.4		56	11	-5	25	35	0.03		0.03	0.4	1	17	10	4	nw.	U. S. Engineer Corps.	
Hallock.	Kittson.	815	14	20.0	+11.2	50	13	-17	25	40	0.07	-0.31	0.05	0.7	2	26	1	4	s.	D. A. Robertson.	
Halstad.	Norman.	870	7	18.0		53	13	-15	25	39	0.00		0.00	0	0	24	0	7	sw.	A. G. Holstrom.	
Hinckley.	Pine.	1,050	8	27.0		54	10	-3	25	34	0.15		0.15	2.0	1	12	10	9	sw.	W. R. Newman.	
International Falls.	Koochiching.	1,112	10	22.8	+15.1	51	11	-9	25	27	0.07	-0.99	0.07	2.5	1	15	4	12	w.	J. T. Jaeger.	
Itasca State Park.	Clearwater.	1,500	2	22.6		54	11	-17	25	37	0.00		0.00	0	0	23	0	8	nw.	J. A	

TABLE 1.—Climatological data for December, 1913. District No. 5—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.				Precipitation, in inches.				Sky.	Prevailing wind direction.	Observers.						
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmeted.						
<b>Minnesota—Continued.</b>																				
Red Wing.	Goodhue.	680	17								T. — 1.38	T. 0	0	13	3	15	sw.			
Reeds Landing.	Wabasha.	681	17								T. 0.04	T. 0.11	T. 0	1	9	2	nw.			
Rochester.	Olmstead.	991	8	29.2		55	11†	4	26	35	0.13	T. 0.11	T. 0	2	14	14	se.			
Roseau.	Roseau.	1,040	3	18.8		47	11	- 20	25	37	T.	T. 0	0	17	12	2	se.			
St. Charles.	Winnona.	850	23	30.0	+ 9.5	52	3	6	25	25	0.20	T. 0.10	T. 0.15	T. 0	2	3	11	ne.		
St. Cloud.	Sherburne.	1,020	36	28.6	+ 11.4	53	11	3	26	28	T.	T. 0.54	T. 0.10	T. 0	1	18	2	10	n.	
St. Paul.	Ramsey.	940	42	30.2	+ 10.9	56	11	7	26	28	0.02	T. 0.04	T. 0.02	T. 0	1	11	6	14	n.	
St. Peter.	Nicollet.	825	18	29.4	+ 9.3	60	11	6	21	40	T.	T. 0.68	T. 0.08	T. 0	0	17	2	12	nw.	
Sandy Lake Dam.	Aitkin.	1,234	20	25.8	+ 12.6	49	11†	1	25	32	0.08	T. 0.75	T. 0.06	T. 0.03	0.2	2	2	10	w.	
State Sanatorium	Cass.	1,336	5	24.8		55	11†	- 8	25	33	0.05	T. 0.03	T. 0.03	T. 0	0	19	4	8	s.	
Stillwater.	Washington.	694	7								T. 0.03	T. 0.03	T. 0	0	17	5	10	Minneapolis Gen. Elec. Co.		
Taylor Falls.	Chisago.	759	6	29.0		54	11	0	26	31	0.08	T. 0.08	T. 0.08	T. 0	0	17	5	10	E. W. Lown.	
Thief River Falls.	Pennington.	1,137	2	20.8		47	11†	- 15	25	37	T.	T. 0	T. 0	T. 0	0	7	7	s.		
Tracy.	Lyon.	1,403	30	4.4		64	12	7	25	38	T.	T. 0	T. 0	T. 0	0	16	11	4	P. H. Holm.	
Warren.	Marshall.	859	1	21.4		52	13	- 15*	25	44†	T.	T. 0	T. 0	T. 0	0	24	6	14	G. A. Sawyer.	
Worrad.	Rosseau.	1,069	3	20.8		49	11	- 17	25	41	0.09	T. 0.09	T. 1.2	T. 0	0	13	9	9	W. A. Peterson.	
Windom.	Cottonwood.	1,336	5	28.8		60	11	- 5	25	42	0.00	T. 0.00	T. 0	T. 0	0	16	6	10	H. H. Haight.	
Winneshiek.	Faribault.	1,100	16	29.6	+ 9.8	58	11	3	25	36	0.01	T. 0.01	T. 1.01	T. 0.04	1.2	3	11	U. S. Engineer Corps.		
Winnibigoshish.	Itasca.	1,300	25	25.6	+ 12.5	50	11†	7	26	34	0.09	T. 0.71	T. 0.12	T. 0.12	0.1	18	1	12	P. C. Myers.	
Winona.	Winona.	700	17	31.4	+ 9.6	52	3†	7	26	38	0.17	T. 1.03	T. 0.20	T. 0.20	4.2	0	11	10	A. E. Johnson.	
Winton.	St. Louis.	816	21	21.6		51	12	- 6	31	38	0.42	T. 0.20	T. 0.20	T. 0	0	19	3	9	M. P. Mann.	
Worthington.	Nobles.	1,593	18	26.0	+ 6.2	53	11	- 4	25	33	T.	T. 0.76	T. 0.76	T. 0	0	14	3	14	W. C. Rowell.	
Zumbrota.	Goodhue.	917	17	30.2	+ 10.6	66	11	- 2	26	41	0.05	T. 0.05	T. 0.2	T. 0	1	14	1	14		
<b>South Dakota.</b>																				
Millbank.	Grant.	1,148	22	25.4	+ 6.9	63	12	- 10	25†	53	0.11	- 0.63	0.11	T. 1	1	19	7	5	nw.	
<b>Wisconsin.</b>																				
Antigo.	Langlade.	1,489	19	29.4	+ 10.3	50	4†	5	21†	26	T.	T. 0.56	T. 0.29	T. 0	0	14	5	12	Elton C. Larzelere.	
Baraboo.	Sauk.	854	0								T. 0.29	T. 0.2	T. 0	0	17	4	10	E. J. Curry.		
Baron.	Baron.	1,115	22	27.2	+ 10.6	50	11	- 2	26	31	T.	T. 1.23	T. 0.13	T. 0	0	15	9	7	Wm. A. Kent.	
Beloit.	Rock.	750	47	33.1	+ 8.6	54	4	13	21	26	0.24	T. 1.60	T. 0.16	T. 2.8	3	13	6	13	Smith Observatory.	
Big St. Germain Dam.	Villas.	1,500	3	27.4		54	13	2	26	37	0.28	T. 1.44	T. 0.17	T. 2.2	3	14	6	11	Fred Hessen.	
Brookhead.	Green.	812	18	32.2	+ 9.0	57	4	10	27	32	0.24	T. 0.35	T. 0.35	T. 0	0	16	4	11	Hector D. Kirkpatrick.	
Burnett.	Dodge.	880	9	31.0		51	4	9	21†	24	0.60	T. 0.35	T. 0.35	T. 0	0	11	7	13	Geo. W. Smith.	
Cottage Grove.	Dane.	888	2								T. 0.20	T. 0.20	T. 0	0	17	8	8	John R. Meilash.		
Darlington.	Lafayette.	867	7	31.0		55	14	3	21	30	0.20	T. 0.20	T. 0.20	T. 0	0	19	10	12	Sever P. Nelson.	
Deerskin Dam.	Forest.	1,885	3	25.8		52	4†	- 2	22	33	0.05	T. 0.05	T. 0.11	T. 0.07	0	12	4	15	Wm. E. O'Neal.	
Delavan.	Walworth.	920	22	32.4	+ 8.1	56	4	9	27	27	0.17	T. 1.42	T. 0.96	T. 0.33	2	12	4	15	Elwood S. Austin.	
Dodgeville.	Iowa.	1,220	13	31.6	+ 10.2	58	1	10	21†	31	0.57	T. 0.96	T. 0.17	T. 0.17	0	17	4	15	H. W. Jones.	
Downing.	Dunn.	983	11	28.2	+ 11.1	53	11	- 5	26	35	T.	T. 1.62	T. 0.13	T. 0	0	18	6	13	Eugene F. Stoddard.	
Eau Claire.	Eau Claire.	800	22	29.0	+ 9.8	53	11	1	26	35	T.	T. 1.53	T. 0.13	T. 0	0	12	6	13	Robert D. Whitford.	
Glen Flora.	Rusk.	1,475	1	25.6		49	11†	- 6	26	34	T.	T. 0.20	T. 0.20	T. 0	0	14	11	6	G. A. Durgin.	
Grand Rapids.	Wood.	980	14	29.3	+ 8.9	51	3	4	21	32	0.27	T. 1.24	T. 0.11	T. 0.07	0	10	9	10	Geo. T. Nixon.	
Grantsburg.	Burnett.	1,045	22	28.8	+ 11.2	53	4	9	27	27	0.17	T. 1.28	T. 0.05	T. 0	0	19	10	10	Frederick B. Hamilton.	
Hancock.	Waushara.	1,091	21	30.9	+ 10.5	52	13	6	21	28	0.05	T. 1.32	T. 0.05	T. 0	0	15	7	9	W. S. Ry. Light & Pow. Co.	
Hastfield.	Jackson.	973	19	28.2	+ 9.2	57	12	- 5	26	36	0.35	T. 1.17	T. 0.17	T. 0.5	4	8	14	9	G. H. McElroy.	
Hayward.	Sawyer.	1,107	22	27.5	+ 11.1	54	13	- 2	24	34	T.	T. 1.12	T. 0.18	T. 0.10	0	21	7	9	Elmer V. Wernick.	
Hillsboro.	Vernon.	1,000	28	28.8	+ 8.5	56	11	4	21	35	0.38	T. 1.20	T. 0.18	T. 0.10	2	16	3	13	Edward S. Koepnick.	
Koepenick.	Langlade.	1,683	23	29.8	+ 11.5	58	5	- 2	25	33	0.21	T. 1.18	T. 0.10	T. 0.08	0	17	7	13	U. S. Weather Bureau.	
Le Crosse.	La Crosse.	714	41	31.4	+ 8.6	54	12	11	21	27	0.13	T. 1.20	T. 0.11	T. 0.08	3	13	5	11	S. Newton Dexter Smith.	
Lake Mills.	Jefferson.	897	22	31.8	+ 8.7	54	4	12	21	27	0.29	T. 1.39	T. 0.22	T. 0.22	0.5	11	7	13	Edward Pollock.	
Lancaster.	Grant.	1,070	22	31.6	+ 9.7	52	12	10	26	36	0.41	T. 0.86	T. 0.41	T. 0	0	15	5	11	Louis Frank.	
Long Lake.	Oneida.	1,592	5	25.0		53	5	- 8	26	49	0.10	T. 0.06	T. 0.06	T. 0	0	18	8	13	U. S. Weather Bureau.	
Madison.	Dane.	974	44	32.0	+ 9.3	53	12	13	21	33	0.33	T. 1.44	T. 0.24	T. 0	0	17	6	13	Agr. Exper. Station.	
Marshfield.	Wood.	1,276	0	28.3		50	11	4	21	31	0.24	T. 1.20	T. 0.18	T. 0.10	0	17	4	13	Frank Evans.	
Mather.	Juneau.	962	9	26.7		49	4	2	21	30	0.47	T. 0.72	T. 0.20	T. 0.17	0	17	5	9	Eugene L. Hitchcock.	
Mouston.	Meadow Valley.	882	17	30.8	+ 10.5	51	4	9	27	38	0.41	T. 1.02	T. 0.09	T. 0	0	13	11	7	13	Charles H. Johnson.
Medford.	Taylor.	974	22	29.2	+ 9.7	53	12	3	21†	36	0.22	T. 1.32	T. 0.06	T. 0	0	15	5	11	Wm. Zeitz.	
Merrill.	Lincoln.	1,420	24	28.1	+ 9.8	51	11†	1	21	36	0.06	T. 0.04	T. 0.04	T. 0	0	13	1	12	Otto F. Lueck.	
Minocqua.	Oneida.	1,267	7	27.6		55	13	- 5	21	34	0.05	T. 0.06	T. 0.06	T. 0	0	15	2	14	Benjamin W. Applebee.	
Mondovi.	Buffalo.	1,004	9	27.6		53	13	- 5	21	34	0.12	T. 0.06	T. 0.06	T. 0	0	14	4	13	Dr. Chas. Hebard.	
Mount Horeb.	Dane.	738	5	29.3		54	11	1	26	38	0.12	T. 0.06	T. 0.06	T. 0	0	15	8	8	W. M. Lewis.	
Muscooda.	Grant.	1,226	9	30.8		52	5†	10	27	31	0.16	T. 0.11	T. 0.10	T. 0	0	15	8	8	Wm. Hessler.	
Nellsville.	Clark.	666	4	30.2		54	12	7	27	33	0.79	T. 0.46	T. 0.46	T. 0	0	18	1	12	Wm. Headset.	
New Richmond.	St. Croix.	996	23	28.2	+ 8.7	50	11†	0	26	33	0.32	T. 1.35	T. 0.32	T. 0	1	15	6	13	Franc A. R. Van Meter.	
Osceola.	Polk.	806	22	28.0	+ 11.2	52	11	0	26	30	T.	T. 1.14	T. 0.22	T. 0	0	12	2	17	Charles W. Staples.	
Portage Falls.	Price.	1,492	22	26.2		51	14	- 1	26	30	0.04	T. 0.04	T. 0.04	T. 0	0	12	5	11	Flambeau Paper Co.	
Portage.	Columbia.	809	24	31.6	+ 9.7	52	4	11	21†	29	0.70	T. 0.83	T.							

TABLE 1.—Climatological data for December, 1913. District No. 5—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years	Temperature, in degrees Fahrenheit.							Precipitation, in inches.							Number of rainy days 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.	Prevailing wind direc- tion.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unadjusted.	Number of rainy days 0.01 inch or more.								
<i>Iowa.</i>																							
Albia.	Monroe.	959	15	32.0	+ 7.0	61	5	3	21	37	0.90	- 0.24	0.74	0.8	2	4	17	10	sw.	J. I. Chenoweth.			
Algona.	Kossuth.	1,213	39	30.8	+ 9.7	54	11	2	25	29	T.	- 1.03	T.	T.	0	19	3	9	s.	Dr. F. T. Seeley.			
Alta.	Buena Vista.	1,513	23	29.4	+ 8.0	55	11	10	25†	36	0.17	- 0.76	0.08	0	4	17	4	10	sw.	David E. Hadden.			
Amana.	Iowa.	721	37	33.8	+ 11.2	54	12	9	22	27	0.58	- 0.87	0.44	0.6	1	10	9	12	n.	C. Schadt.			
Ames.	Story.	926	37	32.6	+ 10.0	57	13	2	22†	34	0.30	- 0.72	0.17	0.1	5	5	1	11	nw.	Iowa State College.			
Baxter.	Jasper.	998	13	32.7	+ 8.5	55	12	5	21	29	0.98	+ 0.09	0.77	0.5	6	6	5	8	sw.	W. R. Vandike.			
Belle Plaine.	Benton.	886	23	32.7	+ 9.0	56	2	10	8	28	0.74	- 0.79	0.64	T.	1	18	5	11	n.	O. C. Burrows.			
Belmond.	Wright.	1,184	3	30.6	—	56	4	4	21	30	0.43	—	0.32	0.5	5	7	14	10	sw.	Geo. P. Hardwick.			
Bloomfield.	Davis.	6	35.2	57	—	57	1	— 3	22	33	1.11	- 0.92	0.80	0.0	0	7	11	1	19	sw.	G. V. Warner.		
Bonaparte.	Van Buren.	22	35.2	+ 7.3	57	1	— 3	22	33	1.11	- 0.92	0.55	6.5	4	4	—	—	—	—	—	B. R. Vale.		
Boone.	Boone.	1,134	8	28.8	+ 10.7	54	11	3	21	35	0.02	- 0.74	0.01	T.	2	17	2	12	s.	C. F. Henning.			
Britt.	Hancock.	1,236	16	34.5	+ 8.3	57	13	9	21†	40	2.89	+ 1.34	1.53	6.8	2	7	9	0	sw.	L. M. Goodman.			
Burlington.	Des Moines.	544	17	35.4	+ 8.5	57	13	6	28	33	1.20	+ 0.30	0.62	T.	4	22	1	8	sw.	Max E. Poppe, Jr.			
Carroll.	Carroll.	1,265	23	31.6	+ 8.2	53	13	—	—	—	—	—	—	—	—	—	—	—	sw.	Mrs. Jos. J. Wolfe.			
Cedar Rapids.	Linn.	733	31	33.0	+ 8.0	54	12	13	22	27	0.90	- 0.60	0.55	T.	2	12	5	14	ne.	R. S. Toogood.			
Charles City.	Floyd.	1,015	22	30.5	+ 11.5	51	11	9	21	25	0.30	- 0.98	0.24	0.6	3	10	8	13	nw.	U. S. Weather Bureau.			
Clinton.	Clinton.	593	46	34.1	+ 8.8	55	12	13	27	28	0.17	- 1.68	0.10	0.2	2	21	5	5	sw.	A. E. Reid.			
Columbus Junction.	Louisa.	595	12	36.0	+ 9.4	57	1†	11	22	27	0.53	- 0.98	0.23	1.5	3	11	4	16	sw.	J. B. Johnston.			
Davenport.	Scott.	580	42	35.2	+ 8.0	55	12	16	21	22	0.54	- 1.15	0.24	2.7	3	9	4	18	sw.	U. S. Weather Bureau.			
Decorah.	Winnesheik.	875	20	32.6	+ 11.6	52	1	11	21	27	0.39	- 0.97	0.23	1.0	3	—	—	—	sw.	F. H. Baker.			
Delaware.	Delaware.	1,063	23	35.5	+ 8.3	57	1	— 3	22	33	1.11	- 0.92	0.55	6.5	4	—	—	—	—	—	Nettie E. Ball.		
Des Moines.	Polk.	861	35	34.0	+ 8.3	56	12	6	21	26	1.05	- 0.26	0.81	1.5	6	10	8	13	sw.	U. S. Weather Bureau.			
Dubuque.	Dubuque.	639	40	34.2	+ 9.7	58	12	— 3	21	26	0.34	- 1.38	0.33	T.	2	12	6	13	nw.	Do.			
Earlham.	Madison.	11	31.6	+ 8.6	56	12	— 3	22	31	1.40	+ 0.10	0.81	2.5	7	16	4	11	sw.	George Phillips.				
Eikader.	Clayton.	727	34	28.8	+ 7.2	50	11†	9	21†	31	0.74	- 1.09	0.41	0.5	3	15	4	12	nw.	Chas. Reinecke.			
Elms.	Howard.	1,182	3	29.6	—	48	3	5	21	28	0.51	—	0.20	1.5	6	15	5	11	sw.	H. A. Moore.			
Estherville.	Emmet.	1,268	18	26.6	+ 11.4	56	13	— 5	26	31	0.20	- 0.42	0.10	T.	3	11	14	6	se.	A. O. Peterson.			
Fairfield.	Jefferson.	780	28	35.5	+ 10.4	58	3†	7	22†	34	0.97	- 0.81	0.36	3.1	4	14	2	15	s.	R. M. McKenzie.			
Fayette.	Fayette.	1,003	23	30.4	+ 8.8	50	2†	9	21	29	0.53	- 0.98	0.37	1.0	3	18	3	10	sw.	R. Z. Latimer.			
Forest City.	Winneshiek.	1,226	19	29.6	+ 9.8	53	11	4	21	32	T.	- 0.85	T.	T.	16	3	12	sw.	J. A. Peters.				
Fort Dodge.	Webster.	1,126	13	30.8	+ 8.3	53	4†	5	25	28	0.80	+ 0.34	0.40	0.5	4	5	2	24	ne.	J. F. Monk.			
Fort Madison.	Lee.	518	64	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Miss L. A. McCready.		
Gilman.	Marshall.	1,052	14	31.2	+ 9.7	50	11†	9	21	26	0.47	- 0.99	0.16	1.2	5	9	12	10	sw.	J. L. Wylie.			
Grand Meadow.	Clayton.	1,180	22	34.1	+ 9.7	55	12	— 3	21	31	0.53	- 0.64	0.42	T.	2	15	6	10	sw.	F. L. Williams.			
Grimmell.	Powershiek.	1,023	24	34.1	+ 9.7	55	12	— 3	21	31	0.53	- 0.64	0.42	T.	3	16	7	8	sw.	D. W. Brainard.			
Grundy Center.	Grundy.	978	23	33.2	+ 10.6	53	4†	9	21†	32	0.80	- 0.38	0.47	T.	3	16	7	9	sw.	J. B. Calderwood.			
Guthrie Center.	Guthrie.	1,077	18	32.0	+ 8.2	51	1†	3	22	30	1.56	+ 0.46	0.92	1.0	7	21	1	9	sw.	D. G. Beardwood.			
Hampton.	Franklin.	1,155	23	33.2	+ 11.7	57	4	4	21	34	0.40	- 0.85	0.40	T.	1	—	—	—	sw.	E. C. Grenelle.			
Humboldt.	Humboldt.	1,095	25	30.6	+ 7.3	53	12	4	21	30	0.17	- 0.52	0.12	T.	3	19	5	7	n.	J. P. Peterson.			
Independence.	Buchanan.	921	49	32.3	+ 10.6	54	12†	10	21	28	1.00	- 0.36	0.45	T.	6	18	3	12	nw.	R. E. Dudley.			
Indiana.	Warren.	969	22	33.2	+ 7.4	54	12	6	21†	27	0.61	- 0.72	0.44	1.2	6	13	4	14	nw.	Prof. J. L. Tilton.			
Iowa City.	Johnson.	683	53	32.4	+ 8.2	56	12	8	22	36	1.02	- 0.63	0.53	T.	4	10	5	16	nw.	Prof. A. G. Smith.			
Iowa Falls.	Hardin.	1,170	20	30.3	+ 9.2	53	4	6	21†	27	0.82	- 0.29	0.64	0.2	3	17	4	10	ne.	J. B. Parmelee.			
Jefferson.	Greene.	1,052	14	32.0	—	56	12	5	21	30	1.03	- 0.28	0.95	0.1	5	17	4	10	sw.	Ora M. Hall.			
Keokuk.	Keokuk.	614	42	36.9	+ 7.5	58	1	15	21	26	1.35	- 0.52	0.55	5.0	5	8	7	16	nw.	U. S. Weather Bureau.			
Kenosha.	Van Buren.	644	21	33.2	+ 5.8	57	1	— 5	22†	39	1.63	- 0.13	0.40	5.0	6	—	—	—	—	—	J. H. Landes.		
Knoxville.	Marion.	920	18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Casey and Belleville.		
Lacona.	Warren.	14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	J. B. Alter.		
Lansing.	Allamakee.	632	8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Chas. R. Serene.		
Le Claire.	Scott.	576	13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Miss M. T. Disney.		
Marshalltown.	Marshall.	947	21	33.2	+ 9.7	60	1	8	21†	33	1.37	+ 0.21	0.85	T.	4	13	2	12	nw.	Jacob Eige.			
Mason City.	Cerro Gordo.	1,132	30	30.6	+ 8.9	52	11†	6	21	31	0.04	- 0.77	0.04	0.4	1	14	10	7	sw.	Dr. Roy Desart.			
Monroe.	Jasper.	922	13	33.4	+ 9.6	55	1†	5	21	28	0.60	- 0.84	0.55	T.	3	13	8	10	sw.	J. A. Dibel.			
Mount Pleasant.	Henry.	729	32	35.4	+ 8.6	58	1	4	22	27	1.11	- 0.26	0.48	4.0	5	8	6	17	sw.	J. W. Edwards.			
Muscataine.	Muscataine.	554	53	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	William Molls.		
New Hampton.	Chickasaw.	1,169	16	31.1	+ 11.6	50	2†	8	21	29	0.37	- 0.56	0.27	0.5	4	16	4	11	s.	A. F. Kemman.			
Nora Springs.	Floyd.	1,064	—	32.8	—	55	11	7	28	30	0.23	—	0.17	0.2	4	17	3	11	s.	Arthur Betts.			
Northwood.	Worth.	1,122	17	29.6	+ 9.6	52	11	5	21	32	0.06	- 1.04	0.03	0.5	3	14	6	11	sw.	Chas. H. Dwelle.			
Olin.	Jones.	760	15	33.4	+ 9.6	55	1†	11	21†	29	0.60	- 0.84	0.55	T.	3	13	8	10	ne.	Dr. F. W. Port.			
Osage.	Mitchell.	1,184	26	31.2	+ 11.6	51	12	7	21	28	0.24	- 1.11	0.14	1.11	2	15	5	11	nw.	Lester Coonradt.			
Oskaloosa.	Mahaska.	843	37	31.2	—	55	12	2	22	29	0.74	-	0.60	0.6	3	14	1	16	ne.	Joseph Boyd.			
Ottumwa.	Wapello.	649	18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Chester Potter.		
Pella.	Marion.	877	11	33.9	+ 8.0	55	11	2	22	32	0.79	- 0.04	0.58	1.0	4	20	1	10	s.</td				

TABLE I.—Climatological data for December, 1913. District No. 5—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years	Temperature, in degrees Fahrenheit.							Precipitation, in inches.							Prevailing wind direction.	Observers.	
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmeasured.	Number of rainy days.	0.01 inch or more.	Number of partly cloudy days.	Number of cloudy days.		
<i>Indiana.</i>																				
Collegeville.	Jasper.	14	8	36.8	+ 9.8	62	18	11	22	40	0.70	- 1.68	0.45	2.5	2	7	6	18	sw.	John Zeller.
Knox.	Starke.	716	8	35.4	+ 6.5	69	1	13	9 <sup>†</sup>	36	1.06	- 1.43	0.45	8.0	4	6	6	18	s.	W. R. R. Tatman.
Laporte.	LePorte.	810	17	34.1	+ 7.8	56	1 <sup>†</sup>	15	9	27	1.05	- 1.43	0.30	7.0	5	6	8	17	nw.	Wm. M. Walton, Jr.
Plymouth.	Marshall.	790	8	34.4	+ 7.5	57	1	14	27	33	1.04	- 2.32	0.51	7.6	6	8	5	18	sw.	J. V. Siders.
South Bend.	St. Joseph.	726	20	34.7	+ 7.5	61	1	12	27	31	0.66	- 2.32	0.30	4.0	6	6	9	16	sw.	Henry H. Swain.
<i>Illinois.</i>																				
Aledo.	Mercer.	738	13	35.8	+ 7.9	59	3	13	22	25	0.83	- 0.44	0.36	3.0	4	10	5	16	nw.	William B. Frew.
Alexander.	Morgan.	670	20	37.6	+ 6.5	59	6 <sup>†</sup>	18	20	28	0.67	- 1.13	0.20	2.5	7	9	2	20	w.	George H. Hall.
Antioch.	Lake.	861	12	33.0	+ 6.5	53	1	13	9 <sup>†</sup>	27	1.27	- 1.43	T.	0	14	1	16	sw.	J. C. James.	
Astoria.	Fulton.	650	14	36.7	+ 6.9	58	1 <sup>†</sup>	15	9	27	1.27	- 1.48	0.50	6.5	5	9	3	19	nw.	Edward V. Bohl.
Aurora.	Kane.	678	34	34.2	+ 7.7	58	1	14	22 <sup>†</sup>	30	0.46	- 1.48	0.23	2.2	5	17	6	8	w.	Miss Alice M. Holden.
Bement.	Platt.	625	6	34.0	+ 7.7	58	1	14	22 <sup>†</sup>	30	0.46	- 1.48	0.23	2.2	6	10	8	13	nw.	J. W. B. Stewart.
Bloomington.	McLean.	840	22	36.6	+ 7.1	58	5	17	8 <sup>†</sup>	26	0.80	- 1.31	0.33	2.5	6	11	0	20	ne.	Prof. H. N. Pearce.
Cairo.	Alexander.	358	41	41.6	+ 3.1	66	1	24	8	23	0.84	- 2.49	0.31	1.8	5	10	1	20	sw.	U. S. Weather Bureau.
Camp Point.	Adams.	732	0	34.2	+ 5.3	67	1	18	9	32	2.05	- 1.32	0.60	6.9	15	9	4	18	sw.	Capt. D. M. Morris.
Carbondale.	Jackson.	445	8	40.2	+ 6.6	60	6	16	9	31	2.05	- 1.32	0.26	3.0	6	10	3	18	sw.	State Normal University.
Carlinville.	Macoupin.	663	23	37.8	+ 5.3	60	6	16	9	31	1.86	- 0.40	0.94	2.2	7	10	3	13	sw.	Dr. J. C. Conley.
Carlyle.	Clinton.	470	28	36.8	+ 5.3	60	6	16	9	31	1.86	- 0.40	0.94	2.2	7	10	3	13	sw.	Hervey O. Jones.
Chester.	Randolph.	380	21	36.6	+ 5.3	60	1	17	8	32	1.36	- 0.45	0.80	10.6	15	21	11	16	sw.	Charles S. Gollon.
Clinton.	Dewitt.	727	3	36.6	+ 5.3	60	1	17	8	32	1.36	- 0.45	0.49	2.5	7	11	4	16	sw.	J. Frank Zeigler.
Cobden.	Union.	656	30	42.0	+ 5.3	74	1	19	9	30	1.47	- 1.97	0.50	2.0	6	17	1	13	n.	John Buck Co.
Dakota.	Stephenson.	929	8	32.4	+ 4.8	54	4	9	21	29	0.14	- 0.01	T.	0	13	7	11	ne.	Elmer G. Smith.	
Decatur.	Macon.	685	22	37.4	+ 4.4	60	6	18	8 <sup>†</sup>	28	1.62	- 0.50	0.70	3.5	6	10	3	18	sw.	Prof. J. H. Coonradt.
Dixon.	Lee.	725	23	32.4	+ 6.6	56	12	12	27	34	1.17	- 0.01	0.70	3.0	5	13	3	13	nw.	H. U. Bardwell.
DuQuoin.	Ferry.	450	25	40.8	+ 5.1	65	1 <sup>†</sup>	20	9	31	1.42	- 1.10	0.78	3.0	6	13	4	14	nw.	G. H. Knetzger.
Dwight.	Livingston.	600	20	35.2	+ 6.1	59	1	12	22	31	0.38	- 0.38	0.48	6.7	8	10	2	19	sw.	Edward O. Welch.
East St. Louis.	St. Clair.	481	2	34.2	+ 5.3	65	4	12	7	32	1.07	- 1.87	0.54	1.3	10	9	2	19	sw.	W. Mc. K. Brown.
Edwardsville.	Madison.	554	14	34.2	+ 5.3	65	4	12	7	32	1.07	- 1.87	0.65	4.7	5	13	3	13	sw.	W. H. Morgan.
Elgin.	Kane.	716	6	34.2	+ 5.3	65	4	12	7	32	1.07	- 1.87	0.70	3.0	3	8	7	16	sw.	Elgin Observatory.
Ewing.	Franklin.	449	1	34.2	+ 5.3	65	4	12	7	32	1.07	- 1.87	0.36	2.3	6	13	3	13	sw.	University of Ill. Experiment Station.
Fairview.	Fulton.	733	2	34.4	+ 8.0	58	1	11	21	28	0.82	- 0.82	0.34	4.4	8	12	4	15	n.	Abram Wilson.
Galva.	Henry.	842	21	34.4	+ 8.0	58	1	11	21	28	0.82	- 0.82	0.28	5.8	5	12	4	15	sw.	Prof. F. F. White.
Grafton.	Jersey.	422	20	34.4	+ 8.0	58	1	11	21	28	0.82	- 0.82	0.56	3.5	7	10	5	15	sw.	R. C. Goodrich.
Greenville.	Bond.	635	35	38.9	+ 6.0	61	2 <sup>†</sup>	20	8 <sup>†</sup>	26	1.26	- 1.37	0.45	4.0	7	8	3	20	s.	H. W. Reidenmann.
Griggsville.	Pike.	650	28	38.6	+ 6.8	60	1 <sup>†</sup>	19	8 <sup>†</sup>	26	1.26	- 1.37	0.45	4.0	5	9	5	17	sw.	Geo. F. Kneeland.
Havana.	Mason.	475	21	36.2	+ 4.8	58	6	18	8	27	0.70	- 1.24	0.37	4.0	2	9	4	18	w.	L. L. Euteneuer.
Henry.	Marshall.	500	25	34.1 <sup>b</sup>	+ 6.9	60 <sup>a</sup>	1	12	21	27	1.29	- 0.52	0.43	4.0	5	13	3	13	nw.	Dr. F. A. Powell.
Hillsboro.	Montgomery.	676	19	38.4	+ 6.1	60	6	18	9	28	0.72	- 1.55	0.30	1.3	5	12	4	15	nw.	Sam Little.
Joliet.	Will.	609	24	34.1	+ 6.4	58	1	11	22	30	0.85	- 1.62	0.28	2.4	3	11	0	20	nw.	F. M. Muhlig.
Kishwaukee.	Winnebago.	730	25	33.1	+ 6.9	54	4 <sup>†</sup>	12	30	31	0.28	- 1.56	0.12	1.0	7	12	7	13	sw.	George Stevens.
LaGrange.	Cook.	657	21	35.0	+ 7.9	58	1	14	30	27	0.28	- 1.40	0.19	2.5	3	11	5	15	sw.	Prof. F. E. Sanford.
La Harpe.	Hancock.	698	34	36.2	+ 7.8	59	1	12	22	29	0.94	- 1.29	0.48	5.5	4	11	8	13	nw.	George E. Campbell.
Lanark.	Carroll.	883	24	32.6	+ 7.2	54	12	9	26 <sup>†</sup>	29	0.51	- 1.06	0.42	T.	3	14	5	13	sw.	M. N. Wertz.
La Salle.	La Salle.	536	8	34.1	+ 6.6	56	1 <sup>†</sup>	11	22 <sup>†</sup>	32	1.42	- 0.86	0.92	3.0	8	8	2	21	nw.	H. A. Sohn.
Lincoln.	Logan.	575	25	36.8	+ 5.5	59	1	15	29	30	0.83	- 1.14	0.23	2.3	5	9	6	16	w.	Prof. C. S. Ogleyee.
Macomb.	McDonough.	700	9	34.1	+ 6.4	58	1	11	22	30	0.85	- 1.20	0.91	5.2	6	13	5	13	sw.	State Normal University.
Manteno.	Kankakee.	711	2	35.0	+ 6.2	59	1	11	8	31	1.22	- 1.11	0.41	4.1	2	11	4	16	sw.	C. B. Schmitzter.
Martinton.	Iroquois.	632	26	35.0	+ 6.2	59	1	11	8	31	1.22	- 1.11	0.41	4.1	2	11	4	16	sw.	Joseph H. Peitzer.
Mascoutah.	St. Clair.	425	23	40.0	+ 5.1	65	1	20	9	29	1.60	- 0.78	0.82	4.0	7	10	5	15	nw.	Dr. Robert F. Lischer.
Minonk.	Woodford.	745	20	35.4	+ 8.0	60	1	14	22	32	1.44	- 0.32	0.62	6.0	10	10	2	19	nw.	John C. Danforth.
Monmouth.	Warren.	784	21	35.2	+ 7.4	59	1	12	21	26	1.04	- 0.48	0.45	6.0	5	10	3	13	nw.	Dr. J. C. Hutchinson.
Morris.	Grundy.	518	12	34.9	+ 6.6	58	1	12	22	29	0.91	- 0.38	0.50	5.0	5	12	4	15	nw.	E. G. Cryder.
Morrison.	White-side.	685	19	33.2	+ 7.6	57	12	10	27	31	0.19	- 1.19	0.11	1.3	5	14	1	16	ne.	S. A. Maxwell.
Morrisonville.	Christian.	626	14	37.8	+ 6.6	58	6	18	8	29	0.62	- 1.23	0.15	1.4	8	10	2	19	n.	J. D. Lewis.
Mount Vernon.	Jefferson.	511	19	38.9	+ 5.5	64	1	18	9	28	1.83	- 0.72	0.50	2.5	7	13	6	12	n.	Theodore P. Stelle.
Nashville.	Washington.	503	13	34.2	+ 5.3	60	1	13	22	28	0.63	- 1.35	0.41	2.0	4	10	1	20	sw.	Harry E. Gewe.
Oregon.	Ogle.	702	4	34.2	+ 5.3	60	1	13	22	28	0.59	- 1.35	0.41	2.0	4	10	1	20	sw.	G. A. Brown.
Ottawa.	La Salle.	500	27	34.2	+ 5.3	60	1	13	22	28	0.59	- 1.35	0.41	2.0	4	10	1	20	sw.	Miss Maude M. Harris.
Pana.	Christian.	696	27	37.3	+ 5.1	59	6	18	8 <sup>†</sup>	28	0.42	- 2.10	0.19	2.5	4	7	4	20	s.	Julius Keefer.
Pawpaw.	Lee.	930	1	35.7	+ 7.6	58	1	16	22	25	0.74	- 1.63	0.29	3.0	6	11	0	20	s.	A. C. McBride.
Pearl.	Pearl.	609	57	35.7	+ 7.6	58	1	16	22	25	0.74	- 1.63	0.29	3.0	6	11	0	20	s.	U. S. Weather Bureau.
Pontiac.	Livingston.	546	11	36.1	+ 6.3</td															

TABLE 2.—*Daily precipitation for December, 1913. District No. 5, Upper Mississippi Valley.*

TABLE 2.—*Daily precipitation for December, 1913. District No. 5—Continued.*

TABLE 2.—*Daily precipitation for December, 1913. District No. 5—Continued.*

Stations.	Watershed.	Day of month.																													Total.		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
<i>Iowa—Continued.</i>	.																																
Burlington	Mississippi	.53	.02					.20	.05	T.												.21	.67	.21				T.	T.			2.89	
Carroll	Raccoon	.05	.07					.62	.55																							1.29	
Cedar Rapids	Cedar	.55	T.	T.	T.		.24	T.	.35	T.																					0.93		
Charles City	do	.01																														0.60	
Clinton	Mississippi	T.	T.					.10	T.																						0.17		
Columbus Junction	Iowa	T.	T.					.23	T.																						0.53		
Davenport	Mississippi	.14	T.	T.	T.		.16	T.																							0.54		
Decorah	do	.05						.23																							0.39		
Delaware	Des Moines	.01	.10	.12	.70	T.																									T.	1.06	
Dubuque	Mississippi	T.	.01					.33	T.																						0.34		
Earlham	Raccoon	.04	.10	.11	.81	.15																									1.40		
Elkader	Mississippi	.30						.41	T.																						0.74		
Elma	Wapsipinicon	.07	.07	.02				.20																							0.51		
Estherville	Des Moines	.10	.05	T.				.05																							0.20		
Fairfield	Skunk	T.	T.					.28	.04																						0.97		
Fayette	Mississippi	.06						.37	T.																						0.53		
Forest City	Cedar							T.																							T.	0.80	
Fort Dodge	Des Moines	.20	T.					.15	.40																						1.43		
Fort Madison	Mississippi							.25	T.																						0.75		
Gillman	Iowa	T.						.68	.07																						0.47		
Grand Meadow	Mississippi	.10						.16	.09																						0.53		
Grinnell	Iowa	T.						.42																							0.80		
Grundy Center	Cedar	.12	T.					.47	.21																						1.56		
Guthrie Center	Raccoon	.19	.01	.11				.05	.92	.22																				0.40			
Hampton	Cedar							.40																							0.17		
Humboldt	Des Moines	.02	.03					.12																							1.00		
Independence	Wapsipinicon	.20	.05	.02	.01			.45	.27																								
Indianola	Des Moines	.01						T.	.01	.44	.03																				0.61		
Iowa City	Iowa	.53	.05					.12	.32																						1.02		
Iowa Falls	do	.16	T.	T.				T.	.64																						0.82		
Jefferson	Raccoon	.03	.02					.02	.95																						1.03		
Keokuk	Mississippi	.40						.25	.30	T.																					1.35		
Kosciusko	Des Moines							.39	.12	T.																					1.63		
Knoxville	do	.01	.04	.22				.12	.15																								
Lacona	Lansing	.22	.04	.02				.10																								2.22	
Lansing	Mississippi	.03	T.	T.				.01	.25	T.																					0.46		
Le Claire	do	.10	T.	T.				.01	.25	T.																					1.49		
Marshalltown	Iowa	.45	.01	.01	T.			.03	.85	T.																				1.37			
Mason City	Cedar							.04																								0.04	
Monroe	Skunk	T.	T.	T.	T.		.31	.19	.08																					0.60			
Mount Pleasant	do							.39	.04																						1.11		
Muscatine	Mississippi	.73	T.					.05	.10	T.																				0.97			
New Hampton	Wapsipinicon	.03	T.					.27																							0.37		
Nora Springs	Cedar	.02	.01					.17	T.																						0.23		
Northwood	do	.01	T.	T.	T.		.17	T.																							0.06		
Olin	Wapsipinicon	.05	T.					.35	.20																						0.60		
Osage	Cedar	.14						.10																							0.24		
Oskaloosa	Des Moines							.50																							0.74		
Ottumwa	do	.06						.58	T.																						0.79		
Pella	do	.06						.58	T.																						0.05		
Parry	Raccoon	.02	.03	.07	T.			.75	.18																					1.11			
Pocahontas	do							.05																							0.05		
Rockwell City	do							.10																							1.10		
Sac City	do							.10	T.	T.																				0.40			
St. Charles	Des Moines	.03						.12	.17	.26	.16																		1.64				
Sigourney	Skunk	T.						.06																						0.37			
Stockport	Storm Lake	.03						.02	T.	.37	.07																		0.92				
Storm Lake	Raccoon							.01																						0.01			
Tipton	Cedar	.07							.44	T.																				0.51			
Toledo	Iowa							.04																						0.91			
Washington	Skunk	.04							.18	T.																				0.82			
Waterloo	Cedar	.38	.02						.60																					1.01			
Waukees	Raccoon	.04	.02	.10	T.			.03	.79	.07																			1.12				
Waverly	Cedar																														0.05		
Webster City	Des Moines	T.							.36	.20																				0.60			
West Bend	do								.03																						0.05		
Whitten	Iowa	.05	T.						.22																								

TABLE 2.—*Daily precipitation for December, 1913. District No. 5—Continued.*

Stations.	Watershed.	Day of month.																													Total			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
<i>Illinois—Contd.</i>																																		
Bloomington	Illinois	.04	.07	T.	.	.	.	.12	.05	.	.	.	.	.	.	.	.	.	.	.19	.	.	.33	T.	.	.	.	.	.	.	.	.	.80	
Cairo	Mississippi	T.	T.	T.	T.	.10	.40	.	.	.	.	.	.	.	.	.	.	.	.	T.	.	.	.31	T.	.	.	.	.	.	.	.	.	0.84	
Camp Point	do	T.	T.	T.	T.	.03	.	.44	.03	.	.	.	.	.	.	.	.	.	.	T.	.	.	.36	T.	.53	.	.	.	.	.	.	.	1.39	
Carbondale	do	T.	T.	.	.	.	.	.12	.	.	.	.	.	.	.	.	.	.	T.	.	.	.20	T.	.36	.	.	.	.	.	.	.	2.05		
Carlinville	Illinois	.01	.	T.	.	.03	.04	T.	.	.	.	.	.	.	.	.	.	.	T.	T.	T.	.	.26	T.	.05	.	.	.	.	.	.	.	0.85	
Carlyle	Mississippi	do	T.	.	.	.02	T.	.32	.22	.	.	.	.	.	.	.	.	.	T.	.02	.01	.02	.04	T.	.	.	.10	.04	.	.	.	.	1.86	
Chester	do	.08	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	T.	.	.	.	.	T.	.	.	.	.	.	.	.	.	2.45	
Clinton	Illinois	.49	.01	.	.	.	.	.10	.04	.	.	.	.	.	.	.	.	.	T.	T.	T.	.04	.25	T.	.	.	.	.	.	.	.	1.36		
Cobden	Mississippi	.20	.	.	.	.	.	.50	T.	.	.	.	.	.	.	.	.	.	T.	T.	T.	.04	.26	T.	.38	.35	.	.	.	.	.	.	1.47	
Dakota	do	.08	T.	T.	.	.	.	.08	T.	.	.	.	.	.	.	.	.	.	T.	.	.	.	.20	T.	.	.	.	.	.	.	.	0.14		
Decatur	Illinois	.70	T.	.	.	.	.	.10	.16	T.	.	.	.	.	.	.	.	.	T.	.	.	.	.17	.	.	.	.30	.	.	.	.	1.62		
Dixon	Mississippi	.70	.05	T.	.	.	.	.05	.09	T.	.	.	.	.	.	.	.	.	T.	.	.	.	.04	.30	.	.	.	.78	.	.	.	1.17		
Du Quoin	do	.07	.	.	.	.	.	T.	T.	.22	.01	.	.	.	.	.	.	T.	.	.	.	.28	.	.	.	.	.	.	.	.	1.42			
Dwight	Illinois	.24	.	.	.	.	.	.17	.00	.	.	.	.	.	.	.	.	T.	.	.	.	.28	.03	.	.	.	.48	.	.	.	1.30			
East St. Louis	Mississippi	.02	.	.	.	.	.	T.	.04	.	.	.	.	.	.	.	.	T.	T.	T.	.10	.20	.12	.06	.19	.	.	.	.54	.	.	.	1.36	
Edwardsville	do	.	.	.	.	.	.	.12	.04	.03	.	.	.	.	.	.	.	T.	.	.	.	.16	.65	.03	.17	.	.	.	.	.	.	1.87		
Elgin	Illinois	.30	.	.	.	.	.	.07	T.	.	.	.	.	.	.	.	.	T.	.	.	.	.	.	.	.	.	.	.	.	.	.	1.07		
Ewing	Mississippi	.12	.	.	.	.	.	.21	T.	.	.	.	.	.	.	.	.	T.	.	.	.	.36	T.	.	.	.	.27	.	.	.	.02	.	.	1.27
Fairview	Illinois	.06	T.	.	.	.	.	.15	T.	T.	.	.	.	.	.	.	.	T.	.	.	.	.24	.02	.	.	.	.34	T.	.	.	.	0.82		
Galva	do	.03	T.	.	.	.	.	.10	T.	.	.	.	.	.	.	.	.	T.	.	.	.	.28	T.	.	.	.	.26	T.	.	.	.	0.69		
Grafton	Mississippi	.08	.06	.	.	.	.	.26	.	.	.	.	.	.	.	.	.	T.	.	.	.	.12	.56	.	.	.	.24	T.	.	.	.	1.58		
Greenville	do	T.	T.	.	.	.	.	.12	T.	.	.	.	.	.	.	.	.	T.	.	.	.	.20	.22	.03	.	.	.45	T.	.	.	.	1.26		
Griggsville	Illinois	.01	.	.	.	.	.	.23	T.	.	.	.	.	.	.	.	.	T.	.	.	.	.28	.	.	.	.	.26	T.	.	.	.	0.79		
Havana	do	T.	.	.	.	.	.	T.	T.	.	.	.	.	.	.	.	T.	.	.	.	.33	T.	.	.	.	.37	T.	.	.	.	0.70			
Henry	do	.43	.	.	.	.	.	.15	T.	.	.	.	.	.	.	.	T.	.	.	.	.20	.13	.	.	.	.38	T.	.	.	.	1.29			
Hillsboro	Mississippi	T.	.	.	.	.	.	.06	T.	.	.	.	.	.	.	.	T.	.	.	.	.20	.02	.	.	.	.11	.30	T.	.	.	.	0.72		
Joliet	Illinois	T.	.	.	.	.	.	.08	T.	.	.	.	.	.	.	.	T.	.	.	.	.05	.23	T.	.	.	.	.	T.	.	.	.	0.36		
Kishwaukee	Mississippi	.12	.01	.01	.	.	.	.07	.02	.	.	.	.	.	.	.	T.	.	.	.	.04	T.	.	.	.	.	T.	.	.	.	0.28			
La Grange	Illinois	T.	.	.	.	.	.	.09	T.	.	.	.	.	.	.	.	T.	.	.	.	.28	T.	.	.	.	.48	.	.	.	.	0.28			
La Harpe	do	.	.	.	.	.	.	.17	T.	.	.	.	.	.	.	.	T.	.	.	.	.03	T.	.	.	.	.47	T.	.	.	.	0.94			
Lanark	Mississippi	.42	.02	.	.	.	.	.07	T.	T.	.	.	.	.	.	.	T.	.	.	.	.27	.03	.40	.	.	.20	T.	.	.	.	0.51			
La Salle	do	.03	T.	.	.	.	.	T.	T.	.	.	.	.	.	.	T.	.	.	.	.11	.02	.	.	.	.37	T.	.	.	.	1.42				
Lincoln	Illinois	.22	.	.	.	.	.	.16	T.	.	.	.	.	.	.	.	T.	.	.	.	.27	.03	.40	.	.	.20	T.	.	.	.	0.83			
Macomb	do	.01	.02	T.	.	.	.	.09	T.	.	.	.	.	.	.	.	T.	.	.	.	.11	.02	.	.	.	.31	T.	.	.	.	0.86			
Manteno	do	.24	.	.	.	.	.	.07	T.	.	.	.	.	.	.	.	T.	.	.	.	.20	.25	.	.	.	.62	T.	.	.	.	1.22			
Martinton	do	.41	.	.	.	.	.	.05	T.	.	.	.	.	.	.	.	T.	.	.	.	.04	.11	.16	T.	.	.27	.	.	.	1.60				
Mascoutah	Mississippi	do	.01	.	.	.	.	.19	T.	.	.	.	.	.	.	.	T.	.	.	.	.26	.04	.62	.	.	.01	T.	.	.	.	1.44			
Minonk	Illinois	.26	.02	.	.	.	.	.20	.01	.	.	.	.	.	.	.	T.	.	.	.	.45	.	.30	T.	.	.	.	.	.	1.04				
Monnouth	Mississippi	.02	.01	.	.	.	.	.26	T.	.	.	.	.	.	.	.	T.	.	.	.	.03	.	.35	T.	.	.	.	.	.	0.91				
Morris	Illinois	.38	.02	.	.	.	.	.13	T.	.	.	.	.	.	.	.	T.	.	.	.	.15	.01	.11	T.	.	.	.	.	.	0.19				
Morrison	Mississippi	.02	.	T.	.	.	.	.06	T.	.	.	.	.	.	.	.	T.	.	.	.	.15	.01	.05	T.	.	.	.	.	.	0.62				
Morrisonville	Illinois	.69	.	T.	T.	.	.	.10	.02	T.	.	.	.	.	.	.	T.	.	.	.	.15	.01	.05	T.	.	.	.	.	.	0.62				
Mount Vernon	Mississippi	.10	.	.	.	.	.	.25	.08	.	.	.	.	.	.	.	T.	.	.	.	.05	.30	.50	.	.	.30	.	.	.	1.83				
Nashville	do	.01	.	.	.	.	.	.27	.06	.	.	.	.	.	.	.	T.	.	.	.	.01	T.	.	.	.	.30	T.	.	.	.	1.76			
Oregon	do	.01	.01	.01	.	.	.	.30	T.	.	.	.	.	.	.	.	T.	.	.	.	.01	.30	.50	.	.	.30	.	.	.	0.63				
Ottawa	Illinois	.06	.02	.	.	.	.	.10	T.	.	.	.	.	.	.	.	T.	.	.	.	.01	.30	.41	.	.	.	T.	.	.	.	0.59			
Pana	Mississippi	T.	.	.	.	.	.	.05	T.	.	.	.	.	.	.	.	T.	.	.	.	.08	T.	.	.	.	.09	T.	.	.	.	0.42			
Pawpaw	Illinois	.03	.01	.	.	.	.	.11	T.	.	.	.	.	.	.	.	T.	.	.	.	.29	.	.20	T.	.	.	.	.01	.	.	0.34			
Pearla	do	T.	.	.	.	.	.	.08	.03	T.	.	.	.	.	.	.	T.	.	.	.	.19	T.	.	.	.	.62	T.	.	.	.	1.24			
Pontiac	do	.27	.	.	.	.	.	.15	.01	.	.	.	.	.	.	.	T.	.	.	.	.23	.05	.46	T.	.	.	.	.	.	1.60				
Quincy	Mississippi	.53	T.	T.	T.	.	.	.33	.	.	.	.	.	.	.	.	T.	.	.	.	.01	.15	.26	.	.	.03	T.	.	.	.	0.55			
Riley	do	.28	.02	.	.	.	.	.07	.02	.	.	.	.	.	.	.	T.	.	.	.	.33	.25	.03	T.	.	.	.	.	.	0.84				
Roberts	Illinois	.09	.	.	.	.	.	.11	.03	.	.	.	.	.	.	.	T.	.	.	.	.31	.50	.22	T.	.	.	.	.	.	0.55				
Rockford	Mississippi	.45	.01	T.	.	.	.	.06	T.	T.	.	.	.	.	.	.	T.	.	.	.	.03	.50	.	.	.	.22	T.	.	.	.	1.09			
Rushville	Illinois	T.	.	.	.	.	.	.25	T.	.	.	.	.	.	.	.	T.	.	.	.	.12	.45	.25	T.	.	.15	.07	.	.	1.04				
St. Charles	do	.25	.03	.	.	.	.	.08	.01	.	.	.	.	.	.	.	T.	.	.	.	.01	.06	.28	.	.	.80	.02	.	.	1.59				
St. Peter	Mississippi	T.	.	.	.	.	.	T.	.	.	.	.	.	.	.	T.	.	.	.	.21	.05	.16	T.	.	.12	.	.	T.	.	0.77				
Sparta	do	.	.	.	.	.	.	.22	.19	.	.	.	.	.	.	.	T.	.	.	.	.06	.26	.03	T.	.	.	.	.	.	1.89				
Springfield	Illinois	T.	T.	T.	.	.10	.09	.03	.	.	.	.	.	.	.	.	T.	.	.	.	.06	.13	.50	.	.	.40	.12	.	.	0.58				
Streator	do	1.21	.	.	.	.	.	.03	.05	.06	.	.	.	.	.	.	T.	.	.	.	.06	.25	.26	.	.	.03	.12	.</td						

TABLE 3.—Maximum and minimum temperatures at selected stations for December, 1913. District No. 5, Upper Mississippi Valley.

Date.	North Dakota.										Minnesota.										Winnibgoish.								
	Bottineau.		Devils Lake.		Lisbon.		Minot.		Pembina.		Collegeville.		Crookston.		Grand Meadow.		Montevideo.		Moorhead.		New Ulm.		Pine River Dam.		St. Paul.				
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.					
1....	36	24	34	24	49	32	44	19	48	8	39	32	35	25	43	39	48	22	35	29	43	33	40	30	44	37	34	22	
2....	24	20	31	19	53	30	33	22	46	4	42	37	35	32	46	41	44	36	39	30	49	32	41	31	45	40	44	21	
3....	41	17	32	25	50	28	41	27	44	2	43	25	38	32	49	41	47	37	39	29	47	32	41	28	49	41	46	32	
4....	43	14	37	25	48	28	45	23	49	0	42	33	43	29	43	32	49	39	43	27	49	35	45	32	44	37	42	31	
5....	41	13	43	22	48	29	60	19	42	-1	40	29	39	23	43	34	51	28	40	22	42	34	45	28	39	33	46	30	
6....	29	18	31	9	50	26	34	20	48	2	44	31	34	21	42	34	45	23	36	12	31	29	42	21	46	23	34	25	
7....	22	-2	22	1	46	26	34	-3	50	5	32	10	23	6	34	11	25	10	20	8	23	11	30	10	23	14	32	5	
8....	34	-1	37	22	40	23	48	5	52	8	34	12	41	10	34	11	44	18	42	15	42	12	34	9	35	14	36	20	
9....	33	4	41	21	42	18	48	22	50	10	45	23	42	20	49	20	52	24	44	19	53	16	41	23	48	24	38	22	
10....	49	5	45	21	40	20	55	17	52	8	40	17	45	25	48	23	43	18	56	20	41	18	45	30	43	21	42	21	
11....	46	10	50	26	34	24	61	23	56	10	55	28	43	20	50	24	64	23	49	21	60	20	53	20	56	28	50	22	
12....	41	15	45	23	32	15	56	29	54	12	61	30	44	20	52	28	58	22	47	17	53	20	50	28	50	25	48	21	
13....	40	11	48	20	28	13	50	12	58	10	50	29	45	18	48	25	52	18	49	17	48	20	48	16	48	26	48	21	
14....	31	10	30	10	32	-6	35	12	56	14	41	21	27	11	43	25	38	19	33	15	47	19	31	13	41	23	46	18	
15....	40	11	43	22	30	-6	47	18	54	12	43	27	43	12	49	24	53	24	47	19	52	23	43	18	44	26	43	22	
16....	40	11	42	19	32	0	46	24	50	8	47	25	46	19	43	28	53	25	50	16	58	25	45	22	46	27	46	26	
17....	34	10	31	21	21	3	43	9	46	9	38	24	30	20	47	23	40	19	34	4	47	23	42	21	40	25	44	20	
18....	35	10	42	13	38	-4	43	9	42	8	37	16	35	12	43	15	35	10	39	5	11	43	12	33	4	38	19	35	10
19....	17	3	17	2	34	10	21	8	40	4	40	23	17	12	41	20	34	18	22	5	39	13	31	13	40	23	34	18	
20....	25	-5	23	-3	26	2	-6	38	2	35	7	17	-1	33	11	27	4	17	3	27	11	23	4	26	12	24	4		
21....	12	-5	16	-5	30	-13	18	5	36	-2	27	9	0	-1	30	6	24	10	14	2	21	8	27	7	36	22	38	8	
22....	23	-1	29	-2	36	-13	34	6	32	-5	32	10	30	0	35	10	26	1	32	6	31	-4	36	14	33	8	4		
23....	16	2	21	-2	38	-10	21	-3	30	-10	34	14	23	6	36	11	36	8	37	8	28	7	36	19	33	10			
24....	9	3	10	-10	30	2	10	-2	32	-15	28	14	10	5	32	15	22	5	13	5	25	13	21	4	36	16	38	4	
25....	10	-14	10	-13	30	-15	18	-14	30	-10	15	0	10	-13	30	12	12	-8	7	-12	20	2	18	-5	20	11	20	-7	
26....	14	-10	14	-2	28	-10	28	-1	-5	-20	19	16	20	-10	24	15	26	0	21	-2	27	3	17	7	24	7	18	3	
27....	14	-4	14	6	30	-10	20	-1	2	-18	22	17	9	6	27	16	24	15	20	5	30	8	21	9	24	22	35	15	
28....	34	-3	33	7	36	6	40	-1	10	-12	21	19	23	-3	24	15	26	2	32	12	23	13	36	17	33	12			
29....	32	13	32	14	38	13	44	18	20	-10	33	18	24	8	39	15	36	12	24	13	35	11	24	16	36	17	22	10	
30....	32	7	27	11	40	10	40	9	26	-8	32	18	24	16	26	14	33	15	28	13	38	18	26	19	27	20	24		
31....	23	9	22	16	38	15	29	18	28	-5	28	15	28	14	26	14	36	14	26	14	29	18	23	10	26	19	28	14	
Mns.	29.7	6.6	30.7	11.5	37.3	9.3	37.8	11.1	38.9	0.6	36.6	20.9	29.9	12.5	38.9	21.1	38.9	17.2	32.4	12.2	39.8	18.0	34.2	15.4	37.6	22.7	35.2	16.0	

Date.	Wisconsin.										Iowa.										Des Moines.		Dubuque.		Keokuk.			
	Eau Claire.		Grantsburg.		Hancock.		La Crosse.		Madison.		Prentice.		Wausau.		Algona.		Cedar Rapids.		Charles City.		Davenport.		Des Moines.		Dubuque.		Keokuk.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.		
1....	44	38	43	36	45	38	44	41	43	41	41	31	41	35	44	38	51	46	45	42	52	47	54	48	44	58	52	
2....	45	42	46	38	47	40	48	43	47	42	43	38	45	37	47	41	53	48	50	43	54	48	52	49	46	50	44	40
3....	47	37	47	31	50	39	53	40	46	42	46	28	49	34	49	42	51	47	46	43	52	48	51	49	46	49	42	40
4....	45	36	42	31	50	33	52	34	52	36	50	30	50	32	47	37	51	42	46	43	53	44	51	46	48	44	40	40
5....	43	35	48	36	44	36	46	37	50	31	44	32	44	36	47	36	49	37	45	37	48	39	47	42	46	51	51	40
6....	40	31	43	27	42	35	42	31	43	37	46	29	38	32	43	33	45	39	40	29	46	42	52	45	41	58	43	42
7....	37	9	32	11	39	15	31	16	37	14	39	10	18	12	34	11	23	20	29	15	42	20	32	17	41	18	35	21
8....	31	12	31	9	29	12	36	16	31	18	30	3	29	12	35	12	32	18	34	15	33	20	37	18	33	18	35	21
9....	44	24	43	19	45	26	48	23	43	22	46	18	49	22	42	20	44	22	47	17	49	22	50	23	47	24	50	26
10....	45	27	40	22	42	23	45	29	44	25	43	24	41	21	48	26	45											

TABLE 3.—*Maximum and minimum temperatures at selected stations for December, 1913. District No. 5—Continued.*

Date.	Hamilal, Mo.		Leporte, Ind.		Illinois.															
					Cairo.		Du Quoin.		Greenville.		La Salle. <sup>§</sup>		Monmouth.		Peoria.		Rockford.		Springfield.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1.....	61	53	56	48	65	50	65	46	60	46	56	51	59	53	58	49	50	45	57	48
2.....	61	55	56	48	62	47	63	46	61	49	55	51	55	52	56	53	53	45	57	50
3.....	58	53	56	44	59	50	63	48	59	52	51	48	54	48	52	50	49	45	56	52
4.....	53	48	54	39	53	46	59	48	55	48	56	48	54	46	54	40	59	34	52	47
5.....	51	46	48	35	61	42	59	43	54	45	50	50	39	50	37	51	36	50	38	53
6.....	59	48	50	36	61	52	60	49	61	49	47	39	55	44	56	46	39	58	48	48
7.....	48	23	47	25	52	29	50	25	50	24	29	28	45	20	44	19	44	16	48	21
8.....	36	20	34	17	38	24	27	21	34	20	31	18	33	17	32	18	32	16	31	21
9.....	43	24	38	15	43	26	46	20	41	20	43	18	43	22	42	20	46	21	41	24
10.....	49	31	41	31	52	31	50	29	47	29	48	28	50	31	50	32	48	30	47	32
11.....	52	28	42	24	52	36	55	29	52	30	50	24	51	25	50	25	51	22	48	34
12.....	56	36	45	25	56	34	59	29	56	30	55	28	55	32	54	32	56	33	54	34
13.....	56	31	52	25	58	38	65	34	58	33	54	35	54	33	55	32	55	30	55	35
14.....	50	38	45	25	54	46	61	33	58	37	41	34	46	33	45	34	48	32	56	37
15.....	46	37	40	25	46	34	45	34	46	37	37	25	42	29	39	27	37	22	43	36
16.....	44	35	41	31	49	32	51	37	44	36	46	21	42	34	43	33	45	31	40	34
17.....	46	35	40	32	48	42	51	40	48	34	39	33	41	31	40	29	39	28	45	35
18.....	44	29	37	29	47	35	51	30	47	27	40	23	40	20	40	23	40	19	41	28
19.....	47	24	40	22	50	30	50	25	47	26	42	23	43	23	42	26	34	20	42	27
20.....	45	30	38	28	55	38	53	33	43	30	32	24	37	31	36	29	35	21	41	32
21.....	34	18	36	17	42	36	45	34	42	30	31	16	31	12	30	18	34	13	34	26
22.....	35	22	36	18	41	33	38	25	37	24	34	11	32	—	35	16	39	13	36	22
23.....	35	29	37	31	39	36	39	34	35	32	35	11	32	25	34	29	34	26	35	30
24.....	34	32	37	25	40	35	36	34	35	32	36	25	35	24	37	30	34	25	35	33
25.....	32	26	29	16	35	32	36	32	35	30	32	25	33	26	35	28	32	23	34	29
26.....	31	25	33	25	34	31	34	30	34	25	26	22	31	22	26	22	27	20	31	26
27.....	34	28	33	22	34	31	37	29	30	24	30	23	31	22	30	24	30	16	31	27
28.....	35	29	36	25	34	31	37	30	38	27	32	24	35	22	36	25	32	25	34	28
29.....	34	28	29	18	38	31	40	30	33	27	31	29	30	22	31	27	35	26	34	24
30.....	31	28	33	25	32	30	32	29	31	28	31	19	30	23	26	25	36	16	30	23
31.....	32	29	33	25	34	30	34	29	32	28	37	20	29	25	29	27	26	21	31	28
Means.....	44.3	32.8	41.0	27.2	47.2	36.1	48.1	38.4	45.3	32.5	40.6	27.6	41.9	28.5 <sup>a</sup>	41.7	29.7	41.2	26.2	42.9	32.8

<sup>a</sup>, <sup>b</sup>, <sup>c</sup>, etc., indicate respectively 1, 2, 3, etc., days missing from the record.<sup>§§</sup> Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.